

(PCT Article 36 and Rule 70)

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/050004

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-33 as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1-23 received by this Authority on 07.06.2005 with letter of 01.06.2005
- nos.* _____ received by this Authority on _____
- ☐ the drawings:
- sheets _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1.	Statement		
	Novelty (N)	Claims <u>1-23</u>	YES
		Claims _____	NO
	Inventive step (IS)	Claims <u>1-23</u>	YES
		Claims _____	NO
	Industrial applicability (IA)	Claims <u>1-23</u>	YES
		Claims _____	NO
2.	Citations and explanations (Rule 70.7)		
	<p>This report makes reference to the following documents:</p> <p>D1: EP-A-0 983 966 (DEGUSSA-HUELS AKTIENGESELLSCHAFT; DEGUSSA AG) 8 March 2000 (2000-03-08)</p> <p>D2: EP-A-0 901 986 (DEGUSSA-HUELS AKTIENGESELLSCHAFT; DEGUSSA AG) 17 March 1999 (1999-03-17)</p> <p>D3: EP-A-0 755 899 (DEGUSSA-AKTIENGESELLSCHAFT) 29 January 1997 (1997-01-29)</p> <p>D4: WO 96/35639 A (PPG INDUSTRIES, INC) 14 November 1996 (1996-11-14)</p> <p>D5: EP-A-0 745 558 (DEGUSSA AKTIENGESELLSCHAFT; DEGUSSA-HUELS AKTIENGESELLSCHAFT) 4 December 1996 (1996-12-04)</p> <p>D6: EP-A-0 407262 (RHONE-POULENC CHIMIE) 9 January 1991 (1991-01-09)</p> <p>The present application claims precipitated silicic acids defined by specific paramter ranges (claims 1-8). The claimed precipitated silicic acids can be</p>		

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	<p>modified using organosilanes (claims 18 and 19). The methods for producing these precipitated silicic acids are claimed in claims 9-17 and 20.</p> <p>The possibilities for their use are disclosed in claims 21 and 22.</p> <p>Claim 23 claims a vulcanizable rubber mixture containing the non-surface-modified precipitated silicic acids.</p> <p>D1 is regarded as the prior art closest to the subject matter of claim 1.</p> <p>D1 discloses a precipitated silicic acid having the following physicochemical data:</p> <ul style="list-style-type: none">- BET surface area: 80-180 m²/g- CTAB surface area: 80-139 m²/g- BET/CTAB ratio: 1.0-1.6- Sears number: 5-25 ml- DBP number: 200-300 ml/100g <p>D4 (page 16, line 28 to page 17, line 3) shows that precipitated silicic acids normally contain 1-7 percent by weight moisture. This is confirmed by D5 and D6 (see D5, page 8, lines 1-12; D6, examples 1-3).</p> <p>Therefore, the moisture is regarded as being implicitly disclosed in D1.</p> <p>The precipitated silicic acids can also be surface-</p>

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	<p>modified using organosilanes (D1, claims 11 and 12; page 6, line 2 to page 8, line 10).</p> <p>The precipitated silicic acids can be mixed into vulcanizable rubber mixtures as a reinforcing filler.</p> <p>D1 differs from the subject matter of present claim 1 in that it does not claim a ratio of Sears number to BET surface area.</p> <p>In view of D1, present claim 1 appears to be a selection invention.</p> <p>An invention is considered a selection invention when the following three requirements have been fulfilled:</p> <ul style="list-style-type: none">- There is no technical effect.- The examples in the prior art are sufficiently far removed from the embodiments of the present invention.- A sufficiently narrow scope is claimed as compared to the scope described in the prior art. <p>The precipitated silicic acid according to claim 1 of the present application differs essentially from the examples in D1, since the feature "ratio of Sears number to BET surface area" is greater, which means that the precipitated silicic acids in D1 have fewer OH groups per square meter of surface area.</p>

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	<p>The applicant has demonstrated surprising technical effects over the prior art. These technical effects are increased rubber activity, very good dispersion behavior and shorter vulcanization time.</p> <p>These three requirements and therefore the criterion in PCT Article 33(2) and (3) appear to be satisfied by the present claim 1.</p> <p>Consequently, the subject matter of claim 1 can be regarded as novel and inventive (PCT Article 33(2) and (3)).</p> <p>Claims 2-8, 18 and 19 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step, as do the method claims 9-17 and 20 and the use claims 21-23.</p>